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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,250	04/09/2001	Jeffrey Joseph Marrah	DP-303452	8164

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DELPHI TECHNOLOGIES, INC.  
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EXAMINER
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NGUYEN, LEE

ART UNIT	PAPER NUMBER
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2682

DATE MAILED: 01/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/828,250	<b>Applicant(s)</b> MARRAH ET AL.	
	<b>Examiner</b> LEE NGUYEN	<b>Art Unit</b> 2682	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 September 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5,7-16 and 18-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-11 is/are allowed.
- 6) ☒ Claim(s) 1,4,12,15 and 18 is/are rejected.
- 7) ☒ Claim(s) 2,3,5,13,14,16 and 19-21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This action is responsive to the communication filed 9/30/2004.

Claims 6, 17 have been canceled. Claims 1-5, 7-16, 18-21 remain in prosecution.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1, 4, 12, 15, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy et al. (US 5,517,686) in view of Heinemann (US 5,828,699).

Regarding claims 1, 12, Kennedy teaches a phase compensation circuit (fig. 5), comprising:

a delay circuit 94, 110 receiving a composite input signal (from 78) that exhibits a variable phase error; and a control circuit 86 coupled to the delay circuit 94, the control circuit receiving a control signal (col. 6, 56-61) whose value corresponds to the phase error associated with the composite input signal, the control circuit selecting one of the plurality of selectable delays responsive to the control signal, wherein the selected delay is utilized to delay the composite input signal to provide a phase

compensated composite output signal (col. 6, 56-61). Kennedy fails to teach the conventional selectable discrete delays. In an analogous art, Heinemann teaches that delay circuit can be implemented as selectable discrete delays (fig. 1, numeral 18, col. 3, lines 44-48 and 63-65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include selectable discrete delay circuit of

Heinemann to the circuit of Kennedy in order reduce time consuming implement a time delay. Kennedy as modified also teaches that the composite input signal is provided by a detector of an FM receiver 80 (fig. 5 of Kennedy) whose input is coupled to an adaptive reception system 76, 82, 84, 102, 104 that receives a plurality of transmitted signals each through one of a plurality of antennas 14, ...N and provides a composite received signal 78 to the input of the FM receiver, and wherein the phase compensated composite output signal (Phase detector output) is provided to the ARS to phase align the plurality of transmitted signals received through the plurality of antennas (see numeral 82, 102).

Regarding claims 4, 15, Kennedy as modified also teaches that the composite input signal is a frequency modulation (FM) composite input signal (numeral 80, fig. 5 of Kennedy).

Regarding claim 18, the claim is interpreted and rejected for the same reason as set forth in claims 1 and 6.

***Allowable Subject Matter***

4. Claims 2-3, 5, 13-14, 16, 19-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 2, 13, 19, the prior art of record fails to teach an output buffer, the output buffer receiving and amplifying the delayed composite input signal.

Regarding claims 3, 14, 20, the prior art of record fails to teach at least one of the plurality of selectable discrete delays also amplifies the composite input signal as a function of the control signal.

Regarding claims 5, 16, 21, the prior art of record fails to teach that the composite input signal is provided by a detector of an FM receiver and the phase error associated with the composite input signal is introduced when the bandwidth of an intermediate frequency (IF) filter of the FM receiver is dynamically varied.

5. Claims 7-11 are allowed.

Regarding claim 7, the claim is allowable for the same reason as set forth in claim 2.

### ***Response to Arguments***

6. Applicant's arguments filed 9/30/2004 have been fully considered but they are not persuasive.

Applicant argues that neither Kennedy nor Heinemann or in combination thereof, teach a phase compensation circuit that provides a phase compensated output signal to an ARS to phase align a plurality of transmitted signals received through a plurality of antennas, especially they merely disclose an ARS system that receives a non-phase composite input signal.

In response, the examiner respectfully disagrees. Applicant should refer to figure 5 of Kennedy, which discloses the phase compensation circuit that provides a phase compensated output signal 78 to an ARS 76, 82, 84, 102, 104 to phase align 82, 102 a plurality of transmitted signals received through a plurality of antennas 14, ....N. Kennedy also teaches an ARS system that receives a phase composite input signal at 76.

Therefore, the combination of Kennedy and Heinemann does teach the claimed limitation.

### ***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEE NGUYEN whose telephone



number is (703)-308-5249. The examiner can normally be reached on 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, VIVIAN CHIN can be reached on (703) 308-6739. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

 12/20/04  
LEE NGUYEN  
Primary Examiner  
Art Unit 2682